6 Grant Application Attachment 3: Work Plan

6.1 Background

6.1.1 History

The Yuba Region has a tradition of working together in a collaborative manner independent of the development of the State's IRWMP Program to address complex issues. Some examples of these accomplishments over the last ten years include:

- Lower Yuba River Accord (water supply reliability, instream flows, conjunctive use)
- Yuba-Feather Supplemental Flood Control Program (flood protection)
- Groundwater Management Plan (groundwater management, conjunctive use)
- Three Rivers Levee Improvement Authority (flood protection)

In 2002, the State established the Integrated Regional Water Management Grant Program, administered by DWR and State Water Resources Control Board, to encourage communities to develop IRWMPs and better coordinate regional solutions to California's water resource issues. In addition, these IRWMPs could then be used to support competitive grant applications to help fund implementation of projects that improve the state's water supply reliability, water quality, and the environment.

In 2005, water agencies, stakeholders, and interested parties of the Yuba Region formed a Regional Water Management Group (RWMG) to prepare the Yuba IRWM Plan. The preparation of the Yuba IRWM Plan was coordinated with neighboring IRWM Planning efforts, including the Sacramento Valley IRWM Plan, and the Cosumnes, American, Bear, and Yuba IRWM Plan (CABY). The Yuba IRWM Plan was completed in 2008 and adopted by 10 agencies that participated in the development of the Plan. The adopted Yuba IRWMP is referred to as the 2008 Plan.

The Region participated in the Department of Water Resources' (DWR) Region Acceptance Process (RAP) in 2009, which modified the original boundary of the 2008 Plan, and resulted in the Plan being unconditionally approved to compete in the next round of IRWMP grants. The modified area and the passage of time have resulted in eight projects being removed from the original list of 67 projects, and the identification of almost 20 projects to be added to the list for inclusion in the Plan Update.

The Yuba IRWM Plan Area is based on hydrologic features which include watershed boundaries, rivers, and groundwater basin boundaries. The boundary encompasses the

service areas of multiple local agencies and maximizes opportunities to integrate water management activities related to natural and man-made water systems, including water supply reliability, water quality, environmental stewardship, and flood management.

There are many water management issues that have been specifically identified by the Yuba Region RWMG participants. A few include water supply reliability, flood protection, water quality, and environmental enhancement. There are a number of physical components to the water systems in the region and correspondingly a number of groups that manage those physical components.

The Yuba Region is engaged in coordination and planning with all of the IRWM Regions in the Sacramento River Funding Area (SRFA). DWR's map of IRWM funding regions identifies ten planning efforts in the SRFA. The Yuba IRWMP boundary was modified during the RAP process to be responsive to the RAP guidelines. In addition, the boundary was designed to minimize gaps or voids, reduce the areas of overlap between IRWMPs, and where there was overlap provide an understanding of the rationale behind the overlap. The Yuba IRWMP boundary is a contiguous area that does not include any voids or have excluded areas. This boundary does not create any gaps in the region or between the neighboring IRWMP regions.

The Yuba IRWMP boundary does have overlap with the CABY IRWMP. The RWMG plans to continue to effectively integrate with these IRWMP's (that they overlap) as well as other IRWMPs in the SRFA by having representatives attend their meetings, and by providing agendas, reports, and minutes to other organizations and actively collaborating with other organizations on RWMG projects and issues.

The Yuba Region has a tradition of working together in a collaborative manner. Not only do the RWMG members know and work with their constituents, they also know and work effectively with each other. Working with a smaller region sharing multiple water management issues will enable the RWMG to provide a more focused IRWMP specifically designed for the needs of the Yuba Region while coordinating with the efforts of the Sacramento Valley IRWMP and the CABY IRWMP to avoid duplication, overlaps, or voids, and more fully integrate water management in the SRFA.

6.1.2 Regional Agency

The Yuba Regional Water Management Group (RWMG) includes many of the agencies that have statutory authority over water management issues within Yuba County. The RWMG generally consists of the RWMG members and stakeholders. Table 6-1 lists the RWMG members and other stakeholders in the region. This list represents the majority of the water management entities and stakeholders in the region. Figure 2-3 shows the location of water management agencies within the county.

RWMG Members – RWMG Members include those entities whose governing boards have passed a resolution or have taken a functionally equivalent action authorizing the agency to

join the RWMG and participate in development and adoption of the Yuba IRWMP. Entities that are eligible to become RWMG members include those with statutory authority over water issues and public utilities as defined in the California Public Utilities Commission (Section 216(a)).

Each RWMG member selects a representative to participate on behalf of the entity. Each member is granted one vote in the decision-making process described below. The RWMG members identified on Table 6-1 participated in the preparation of the Yuba IRWMP that was completed in 2008 and adopted by 10 of the 11 RWMG members.

Stakeholders – Stakeholders include agencies and organizations that may have an interest in integrated regional water management or in individual water management-related issues, but have not passed a resolution to become a RWMG member. Stakeholders are invited to participate in the same activities and discussions as the RWMG members, but they are not allowed to vote on issues brought before the RWMG. Table 6-1 lists the stakeholders in the region that have been invited to participate in the RWMG. It should be noted that many of the agencies with statutory authority do not have staff, making it difficult to participate in the IRWMP. For many of these agencies, outreach is made to their governing boards at their regularly scheduled board meetings. For example, only one of the eight YCWA member units (Browns Valley Irrigation District) is a RWMG member, while Dry Creek Mutual Water Company is an active stakeholder that regularly attends the RWMG meetings, and the remaining six member units are currently identified as RWMG stakeholders.

The RWMG has authorized Yuba County Water Agency (YCWA) to be the lead agency in the preparation of this Proposition 84 IRWMP Planning Grant Application. As the lead agency, YCWA has coordinated the preparation of the application with the RWMG members.

Minor modifications of the original Yuba IRWM Plan boundary were identified by the RWMG during the RAP to better reflect the Region's hydrologic features. These minor modifications are not expected to result in significant changes to the existing Yuba County IRWMP for several reasons:

- The Yuba IRWMP boundary was expanded during the development of the 2008 Plan as a result of the stakeholder and public outreach process to include the mountainous areas of the county and added new members to the RWMG.
- The existing Yuba IRWMP area focuses on the water management systems that serve both the mountainous and valley floor portions of the plan area.
- The existing Yuba IRWMP area is inclusive of the natural and man-made components of the water management system for the plan area.

The plan area for the Plan Update is shown on Figure 2-2 This modified plan area boundary was selected to better reflect the hydrologic features of the area as encouraged in the RAP Guidelines.

The water management agencies in the region have formed a strong relationship through integrated planning and a variety of projects geared towards improving water management in their region. They look forward to continuing to work together to maintain an environment for effective, multi-use efforts that will address their water resources management needs and ensure a sustainable future for the Yuba Region.

6.1.3 Summary of Participating Agencies

Participating agencies are actively engaged in the RWMG. Currently, all RWMG members listed in Table 6-1 have statutory authority over water supply and water management, the nature of which is also described in Table 6-1. Each RWMG member is responsible for facilitating and actively participating in the IRWM planning and implementation process. Additional information is on the participating agencies is provided in Appendix A.

The Yuba Region and RWMG members are actively pursuing stakeholders through multi-faceted outreach efforts. The RWMG has identified existing list stakeholders in the Yuba Region that participated in the development of the 2008 Plan, which will be expanded throughout the process of Plan Update. Stakeholders will be invited to participate, provide input, and attend meetings, and their contributions will be included throughout the planning process. The current list represents diverse interests and promotes a collaborative effort in developing an IRWMP for the Yuba Region.

Table 6-1 Yuba Region IRWM Composition

| Member | Role | Statutory Authority / IRWM Responsibilities | Level of Participation | Adopti on Status |
|--------------------------------|-----------------------|--|------------------------|-----------------------------|
| Yuba County Water Agency | RWMG (lead agency) | YCWA is responsible for county-wide water resources management and planning. This includes water supply, flood control, and groundwater management responsibilities. YCWA serves as a water wholesaler of Yuba River water for agricultural purveyors in the County. | Actively Engaged | IRWMP Adopted 2/26/08 |
| RD 784 | RWMG | Flood management and stormwater runoff | Actively Engaged | IRWMP Adopted 4/1/08 |
| Linda County Water District | RWMG | LCWD provides treated potable water and distribution and wastewater collection, treatment, and disposal to the unincorporated community of | Actively Engaged | IRWMP Adopted 3/10/08 |

| Member | Role | Statutory Authority / IRWM Responsibilities | Level of Participation | Adopti on Status |
|--|-------------------------------|---|------------------------|-----------------------------|
| | | Linda | | |
| Brown's Valley Irrigation District | RWMG (YCWA Member Unit) | Agricultural water retailer | Actively Engaged | IRWMP Adopted 3/13/08 |
| City of Marysville | RWMG | Municipal water supply (acquired from California Water Service), wastewater treatment, and recycling | Actively Engaged | IRWMP Adopted 3/18/08 |
| Olivehurst Public Utility District | RWMG | Provide water, street lighting, sewer, parks and recreation, and fire services for the unincorporated community of Olivehurst | Actively Engaged | Plans to Adopt |
| Yuba County | RWMG | Yuba County was established in 1850 and is governed by an elected five-member board. The board's functions are to implement the operation of Yuba County's 19 departments, which include the agricultural commissioner, community development and planning, social services, library, treasurer, assessor's office, public health, public works, law enforcement, and emergency services. | Actively Engaged | IRWMP Adopted 3/25/08 |
| North Yuba Water District | RWMG | The District provides water for rural, domestic, and irrigation uses. | Actively Engaged | IRWMP Adopted 3/20/08 |
| City of Wheatland | RWMG | The City of Wheatland provides water and wastewater services. The City has land use authority within the City limits. | Actively Engaged | IRWMP Adopted 3/25/08 |
| Yuba County Resource Conservation District (Yuba County RCD) | RWMG | The Yuba County RCD was formed to protect soil, water, and related resources by implementing watershed management and conservation projects in cooperation with local landowners and land managers. The Yuba County RCD is a political subdivision of the State of California under Division 9 of the Public Resources Code and is responsible for collaborating on projects | Actively Engaged | IRWMP Adopted 3/18/08 |

| Member | Role | Statutory Authority / IRWM Responsibilities | Level of Participation | Adopti on Status |
|--|--------------------------------------|--|------------------------|------------------------|
| | | throughout the district. The Yuba County RCD covers all of Yuba County except for the City of Marysville and the City of Wheatland. | | |
| RD 10 | Stakeholder | Flood management and stormwater runoff | Aware of IRWMP | |
| RD 2103 | Stakeholder | Flood management and stormwater runoff | Aware of IRWMP | |
| Marysville Levee Commission | Stakeholder | Flood management and stormwater runoff | Aware of IRWMP | |
| River Highlands Community Services District | Stakeholder | The District is responsible for the infrastructure components of the Community Plan. This includes the distribution of potable water supplies and collection and disposal of wastewater. | Aware of IRWMP | |
| Ramirez Water District | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Aware of IRWMP | |
| Cordua Irrigation District | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Aware of IRWMP | |
| Hallwood Irrigation Company | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Aware of IRWMP | |
| Brophy Water District | Stakeholder (YCWA Member Unit) | Agricultural water retailer Aware of IRWMP | | |
| South Yuba Water District | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Aware of IRWMP | |
| Wheatland Water District | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Aware of IRWMP | |

| Member | Role | Statutory Authority / IRWM Responsibilities | Level of Participation | Adopti on Status |
|---|--------------------------------------|--|------------------------|------------------------|
| Dry Creek Mutual Water Company | Stakeholder (YCWA Member Unit) | Agricultural water retailer | Actively Engaged | |
| Camp Far West Irrigation District | Stakeholder | Agricultural water retailer | Aware of IRWMP | |
| Plumas Mutual Water Company | Stakeholder | Agricultural water retailer | Aware of IRWMP | |
| Beale AFB | Stakeholder | Water supply, wastewater treatment | Aware of IRWMP | |
| South Yuba River Citizens League (SYRCL) | Stakeholder | SYRCL is a stakeholder group interested in South Yuba River issues | Aware of IRWMP | |

6.2 Description of the Region

Yuba County includes portions of the western slopes of the Sierra Nevada and the Sacramento Valley floor. The eastern, mountainous portion of the County has elevations in excess of 8,000 feet above mean sea level.

Historically, the valley floor has been dominated by agricultural land uses, which rely on good soils and access to surface water from the Yuba River and groundwater to support an agricultural-based economy. For a portion of the valley floor, the traditional land use patterns are changing, including the conversion of agricultural lands into urbanized areas. In addition, recent reevaluation of the levels of flood protection has identified the need for increased flood protection for the area, including newly urbanizing areas.

Within Yuba County, the foothill and mountain areas extend from the east side of the Sacramento Valley high into the Sierra Nevada. There are a number of small towns in the foothill and mountain areas, and limited agricultural development. The largest agricultural development of the foothills includes the use of grasslands for grazing. The higher elevation mountainous areas of the county are public lands within the Tahoe and Plumas National Forests. The limited economic development in these areas and the few small towns scattered over the rugged terrain are primarily oriented to recreation. These three conditions (limited

economic development, few small scattered towns, and rugged terrain) contribute to the challenges of providing water services to this area.

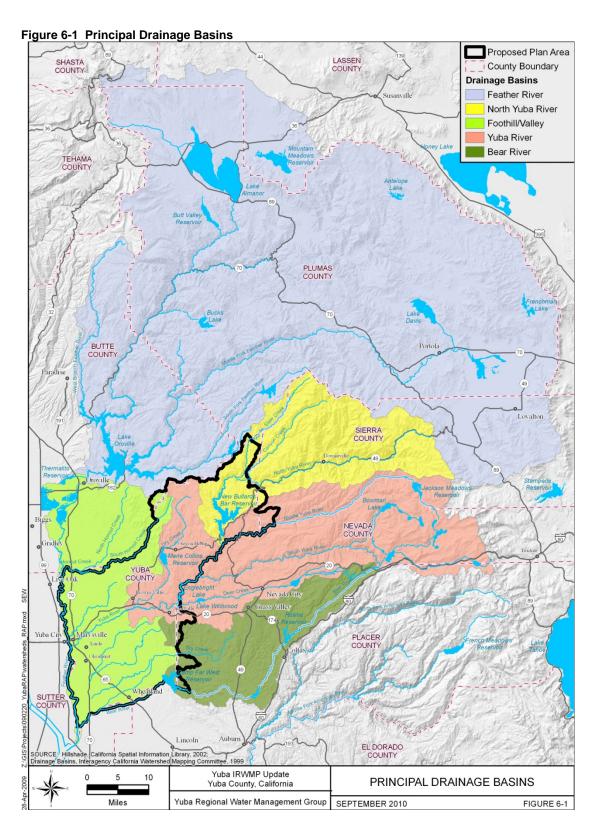
Yuba County's unique water resources facilities and programs have been developed through time in response to the significant challenges and opportunities in the area. These challenges and opportunities include managing the water resources of the Yuba-Feather River system and the extensive groundwater resources of the Yuba Subbasins to meet current and future water needs, and managing winter flood flows to protect the community. This section describes the water resources setting and water management issues in the Plan Area. The information was used by the RWMG to understand the historical and current conditions, identify issues, and support development of goals and objectives.

6.2.1 Surface Water Resources

Yuba County's unique water resources facilities and programs have been developed through time in response to the significant challenges and opportunities in the area. These challenges and opportunities include managing the water resources of the Yuba-Feather River system and the extensive groundwater resources of the Yuba Subbasins to meet current and future water needs, and managing winter flood flows to protect the community. The information was used by the Management Group to understand the historical and current conditions, identify issues, and support development of goals and objectives.

The Yuba River is the primary surface water source within Yuba County. The Yuba River presents the greatest surface water management opportunities because of its location within the central part of the county. Other large rivers that affect water management, primarily on the valley floor of the region, include the Feather River, Honcut Creek, and Bear River. The locations of these rivers and their watersheds are shown on Figure 6-1.

Like other areas of California, the RWMG is working to plan for both flood conditions and drought conditions, and the existing or proposed facilities must provide multiple benefits. The same facilities that are developed to store and distribute winter runoff to provide for irrigation and municipal demands throughout the year must also be operated to manage flood flows. The multiple use facilities and operations are discussed below.



Yuba River

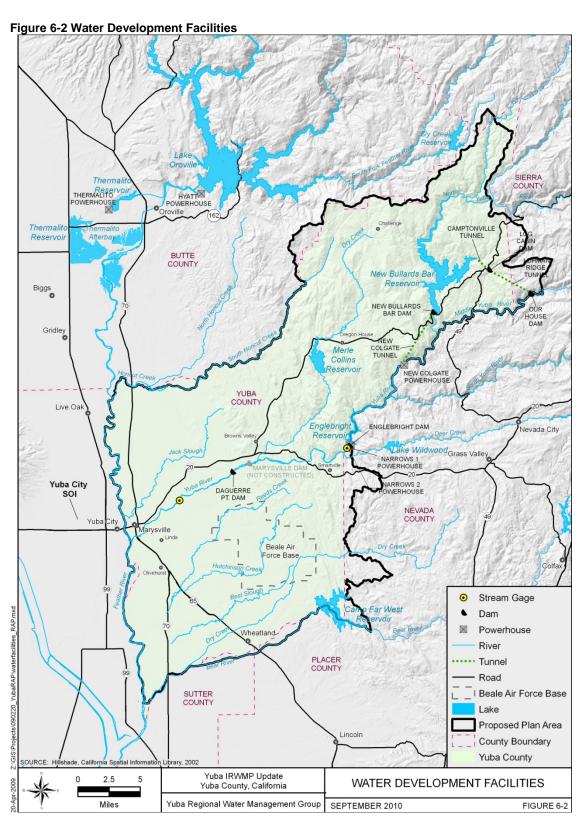
The Yuba River basin drains approximately 1,339 square miles of the western Sierra Nevada slope, including portions of Sierra, Placer, Yuba, and Nevada Counties. The Yuba River is a tributary of the Feather River, which, in turn, is a tributary of the Sacramento River. The average annual unimpaired flow of the Yuba River at Smartsville is 2.45 million acre-feet; however, a portion of this water is diverted from the watershed and is not available to the lower Yuba River. The annual unimpaired flow has ranged from a low of 370,000 acre-feet in 1977 to a high of 4,925,000 acre-feet in 1986. The average surface water supply use in the region is about 304,000 acre-feet, with plans for expansion to 345,000 acre-feet. The region enjoys good surface water quality. Yuba River water management facilities were developed for the purposes of capturing mining debris, water supply, flood control, and hydroelectric power generation. The facilities, operations, hydrology, and flood characteristics are discussed below.

Yuba River Surface Water Facilities

Since the mid-1800s, the Yuba River basin has been significantly developed for gold mining, debris control, water supply, power generation, flood control, fisheries enhancement, and recreation. This development includes the upstream hydroelectric diversions by Pacific Gas and Electric Company (PG&E); hydroelectric and water supply diversions by Nevada Irrigation District and SFWPA; the construction of Daguerre Point Dam and Englebright Dam by the California Debris Commission, now operated and maintained by the Corps for debris control; and the construction of New Bullards Bar Dam and associated facilities by YCWA for water supply, flood control, hydroelectric generation, recreation, and fish and wildlife enhancement. Figure 6-2 shows the locations of these facilities.

The New Bullards Bar Dam and Reservoir, Our House and Log Cabin diversion dams, Colgate Powerhouse, Narrows II Powerhouse, and other conveyance facilities make up the principal components of the Yuba River Development Project, which YCWA constructed in the late 1960s.

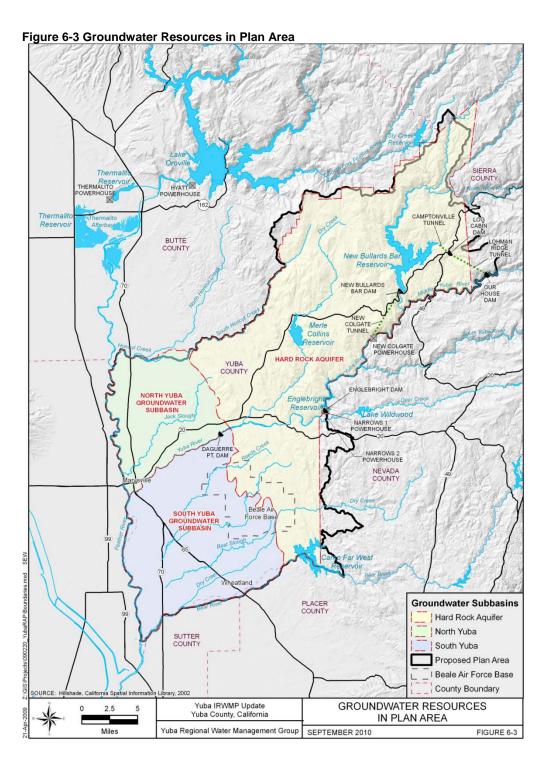
Fifteen other reservoirs have been constructed in the upper portion of the basin on the Middle and South Yuba Rivers, with a combined storage capacity of approximately 400,000 acrefeet. Except for New Bullards Bar Reservoir, there is only minimal storage to regulate flood runoff within the basin. The smaller storage facilities on the headwaters of the South Yuba and Middle Yuba Rivers usually fill with early runoff. Hence, in wetter years, much of the spring and early summer flow to the lower Yuba River results from uncontrolled snowmelt within the basin. In the summer and early fall, most of the flow in the Lower Yuba River is provided by releases from New Bullards Bar Reservoir.



New Bullards Bar Reservoir on the North Yuba River and Lake Oroville on the Feather River are multi-purpose facilities that have dedicated flood storage pools that are operated in accordance with regulations of the Corps. There are several other mostly small reservoirs in the Yuba and Feather River Basins. Lake Almanor on the North Fork of the Feather River, owned by PG&E, can provide incidental flood regulation if there is storage space at the time of a flood inflow, thereby saving storage space in Lake Oroville. PG&E hydro facilities (i.e., Rock Creek, Cresta, and Poe powerhouses) located along the North Fork Feather River upstream of Lake Oroville have negligible flood storage capacity in the Feather River Canyon between Lake Almanor and Lake Oroville. Camp Far West Reservoir on the Bear River, owned and operated by South Sutter Water District, can also provide incidental regulation of floods when there is storage space.

6.2.2 Groundwater Supplies

There is a large range of availability and accessibility to groundwater within Yuba County. The valley floor is underlain by an alluvial aquifer system that contains significant quantities of groundwater, while the foothill and mountain areas are underlain by a fractured rock aquifer, which, at best, may yield small quantities of water to a well. The extent of the groundwater resources in the county are presented on Figure 6-3.



The groundwater aquifer underlying Yuba County is divided by the Yuba River into two subbasins—North Yuba and South Yuba. DWR defines the subbasins as follows:

North Yuba subbasin (groundwater basin number 5-21.60) is bounded on the north by Honcut Creek, the Feather River on the west, on the south by the Yuba River, and on the east by the Sierra Nevada.

South Yuba subbasin (groundwater basin number 5-21.61) is bounded on the north by the Yuba River, the Feather River on the west, on the south by the Bear River, and on the east by the Sierra Nevada.

These two subbasins are considered subbasins to the larger Sacramento Valley groundwater basin and are somewhat hydraulically isolated from the rest of the Sacramento basin by the surface streams that surround them. The Yuba County groundwater subbasins encompass an area of approximately 270 square miles.

Whereas the alluvial groundwater basins of California have been delineated by the DWR, the fractured granite formations that constitute much of the Sierra Nevada foothills and western slopes of the mountains are poorly understood. The crystal nature of the hardrock systems prevents water from penetrating the rocks except in the joints and fractures. Where fractures are present, small amounts of water may be stored and recovered by wells that intersect the fractures.

In the foothill and mountain areas, limited amounts of groundwater may also be available in the small alluvial deposits immediately adjacent to local streams. The alluvium consists of thin deposits of clay, silt, sand, and gravel that have a low storage capacity.

6.3 Water Management

The RWMG members have formed a strong relationship through integrated planning and a variety of projects geared towards improving the communities of their region. A large part of the foundation of that relationship is comprised of the water management practices and strategies the various entities of the RWMG have undertaken. Much work has been completed over the last ten years by members of the RWMG on the most important issues facing Yuba County. Four of the significant issues and initiatives include:

The Lower Yuba River Accord to settle water rights issues of the Yuba River.

A renewed effort for greater flood protection along the Yuba and Feather Rivers.

Increasing urbanization of agricultural land.

New wastewater discharge requirements by the Regional Water Quality Control Board (RWQCB).

Each presents a new set of challenges and opportunities for the region's water managers. Dealing with these challenges and capitalizing on opportunities require reassessing the

region's water supplies and demands and reevaluating water management strategies in the region. New sets of water management options and tools will give water managers greater opportunities and flexibility to optimize their resources for all beneficial uses, both now and in the future.

The recent significant water management issues and initiatives listed above extend beyond a single agency's boundaries and illustrate the need to develop a comprehensive integrated plan to significantly enhance water management in the region. It also illustrates that the issues of the region can be overcome only if all agencies within the region work together.

Flood protection improvement, water supply and groundwater management, and regional growth issues are all multi-agency issues. A coordinated and cooperative work environment between all parties will make the most of available resources for program and project implementation.

Water managers in Yuba County have worked together for years to develop an integrated regional approach to water and floodplain management. Local, state, and federal agencies have been working together to achieve consensus and resolve potential water supply conflict through the development of the Lower Yuba River Accord. From a flood control perspective, the local agencies have worked with state and federal agencies to implement integrated approaches to flood control and floodplain management.

The 2008 Plan built upon this local and regional cooperation to resolve issues and integrate water supply, flood control, and ecosystem management activities.

As part of this process, many of the local water management agencies came together to prepare the IRWM Plan to meet the requirements of the Integrated Regional Water Management Planning Act. The 2008Plan addresses the water management issues as well as strategies and projects that may be implemented to continue to provide the most effective water management for the citizens of the Yuba Region.

The Yuba IRWM Plan Planning Schematic shown on Figure 6-4 highlights the relationship between local and regional planning efforts, and shows how the Plan:

- Supports local project implementation by providing supporting documentation, providing regional integration, and supporting grant funding pursuits
- Supports local planning by serving as a foundational document for future local planning
- Coordinates with other neighboring IRWM Plans in the Sacramento Valley
- Supports other statewide planning efforts such as Regional Flood Management Planning and the California Water Plan Update

Serves as a foundational document to support future planning efforts, and allows for adaptation to changing conditions. **Foundational** Identifies and Supports **Project Planning Documents Local Projects** Implementation **-OCAL PLANNING** • Planning Studies · Supporting · Lower Yuba River · Feasibility Documentation Accord · Flood Studies & Investigations · Regional Support Investigations Design • Support Grant · Water Recycling Plans • Project **Funding Pursuits** · General Plans Implementation Groundwater Management Plans · Urban Water Management Plans **REGIONAL WATER MANAGEMENT GROUP** • RWMG Meetings • Stakeholder Involvement • Board Updates • Workshops Supports Other Regional INTEGRATED
REGIONAL PLANNING Planning **Identify Local** Document Sacramento Valley IRWMP Evaluate Projects and Develop Results of Local Needs Rank & Regional Regional & Issues at a Prioritize to Objectives & Planning in Regional Strategies Meet Supports Yuba County Perspective Regional Statewide **IRWMP** Objectives Planning

Figure 6-4 Yuba IRWM Plan Planning Schematic

6.3.1 Water Management Activities in the Region

6.3.1.1 Urban Water Management Plans

Water purveyors with more than 3,000 customers or providing more than 3,000 acre-feet of water annually are required under the California Urban Water Management Planning Act to update and adopt an Urban Water Management Plan (UWMP) every 5 years. These plans are reviewed by DWR for completeness. UWMP's provide a water plan for each agency that includes drought planning and water conservation measures undertaken by the purveyor within the 20-year planning horizon.

Collectively UWMPs also represent a water management planning effort within the region. With any regional planning effort the local UWMP must be compatible and integrated into the overall planning effort.

Most cities have plans developed for 2005 on file with DWR, but not all plans have been deemed complete. DWR staff is working with many cities and purveyors in the region to complete their 2005 plans, although 2010 plans are due in mid-2011, so updating the

previous plans to make them complete may not be a priority for most. During the preparation of the 2008 Plan, UWMPs were available for the City of Marysville and Linda County Water District. These were used to identify existing and future urban water demand and supply requirements for different year types and various conditions. There has been no change in status of the UWMP's since the 2008 Plan.

6.3.1.2 Groundwater Management Plan

YCWA is actively managing the groundwater resources associated with the portion of the Sacramento Valley groundwater basin that is within Yuba County. The YCWA Board of Directors approved and adopted the YCWA Groundwater Management Plan compliant with SB 1938 on March 1, 2005. The YCWA Groundwater Management Plan may be viewed at www.ycwa.com (select "Current Projects" and then follow the link to "Final GMP"). The GMP was used to identify groundwater management goals and objectives, identify current monitoring, and develop groundwater management BMOs and conjunctive use strategies.

6.3.1.3 Flood Management

For centuries, land along the Yuba and Feather Rivers has been subject to flooding. Early efforts to protect the land and communities were limited to constructing levees along the rivers. Numerous levees failed during floods that were greater than anticipated when the levees were designed, or they failed because of poor construction or poor levee material. Flooding problems worsened with the accumulation of hydraulic mining debris, which raised the river channel bottoms and created higher flood water stages. To control this mining debris, the Corps, through the California Debris Commission, constructed Englebright Dam in 1940 and reconstructed the locally constructed Daguerre Point Dam in 1941.

In 1959, the California Legislature enacted legislation to form YCWA and declared flood control to be one of its principal purposes. Following state approval of water rights and feasibility studies, the citizens of Yuba County approved a \$185 million bond issued by an 11-to-1 margin. The program funded by these bonds included construction of New Bullards Bar Dam and Reservoir for flood control, water supply, power development, and recreation; canal systems to deliver irrigation water; diversions from the Middle Yuba River at Our House and Log Cabin Dams through tunnels and the New Colgate Tunnel and Powerhouse; and construction of the Narrows II Powerhouse at Englebright Dam. New Bullards Bar Dam was completed in 1969.

Although ongoing efforts are improving the stability of some of the levees protecting Yuba County, the five major floods in the last 50 years demonstrate the great risks that exist with the current flood management works. Future floods may be significantly greater than past events and the current capacities of levied channels would be exceeded with resultant overtopping and/or levee failures. Levee breaks on the Yuba River in 1986 and the Feather River in 1997 flooded the southern county area. In 1997, YCWA initiated a phased approach to planning and implementing additional flood control measures.

In the Feather-Yuba region, major stream and associated flood control facilities cover spatially large areas, which include numerous jurisdictions at various levels of government. Effective flood management over this large and complex area requires the participation and coordination between all local emergency personnel and state and federal agencies. This suggests the need for a regional approach for flood management in which flood management activities are coordinated and implemented through local agencies to benefit the entire region. A regional approach also allows for better coordination with state and federal agencies in the planning and implementation of flood management strategies, which increases the local benefit of program implementation while reducing local cost share.

In the Feather-Yuba region the need for coordination is demonstrated by the combination of local and state owned and operated facilities that provide flood protection to the region, including the operation of upstream facilities such as Lake Oroville and New Bullards Bar Reservoir, the design and construction of levees on the valley floor to contain the flood flows, and the operation of weirs into bypass channels or detention basins.

6.3.2 Water Management Challenges

There are many water management challenges that have been identified as specific to the Yuba Region stakeholders by the RWMG. They include:

- Groundwater Protection
- Surface Water Protection
- Storm Water Runoff
- Water Quality
- Supply Reliability
- Water System Infrastructure Improvements
- Flood Protection and Response
- Equitable Resource Protection
- Wetlands Restoration
- Water Conservation

Each presents a new set of challenges and opportunities for the region's water managers. Dealing with these challenges and capitalizing on opportunities require reassessing the region's water supplies and demands and reevaluating water management strategies in the region. New sets of water management options and tools will give water managers greater opportunities and flexibility to optimize their resources for all beneficial uses, both now and in the future.

The recent significant water management issues and initiatives listed above extend beyond a single agency's boundaries and illustrate the need to develop a comprehensive integrated plan to significantly enhance water management in the region. It also illustrates that the Yuba Region IRWMP Update Planning

issues of the region can be overcome only if all agencies within the region work together. Flood protection improvement, water supply and groundwater management, and regional growth issues are all multi-agency issues. A coordinated and cooperative work environment between all parties will make the most of available resources for program and project implementation.

6.4 IRWM Plan Update

The Yuba Region RWMG prepared and adopted the 2008 Plan. It is now the intent of the RWMG is to update the Plan to encompass strategies for solving the specific issues of the region as well as fulfill the requirements of the Proposition 84 & Proposition 1E Integrated Regional Water Management Guidelines provided by the Department of Water Resources. The update of the plan is outlined below:

6.4.1 Planning Goals and Objectives

The 2008 Plan goals provide a broad statement of intent or purpose for the IRWM Plan and the Plan area and are intended to address the primary problems and resource conflicts in the Plan Area. The objectives provide reference points and serve as criteria for evaluating water management strategies and their associated projects, project benefits, impacts, and conflicts. In addition, regional and statewide planning objectives and priorities were evaluated as part of the 2008 Plan.

The RWMG developed the planning goals and objectives with input from all participating agencies. Specific objectives were developed to address the highest priority issues in the Plan Area, which include flood management, water supply reliability, groundwater management, water quality, ecosystem restoration, and recreation and public access in the region. These objectives were refined through review and discussions in regular meetings of the RWMG early in the planning process. The goals and objectives for the priority water management issues are described below.

- Flood Management Goal Yuba County's primary flood management goal is to protect the health, safety, life, and property of the citizens of Yuba County from flood damages using a multi-objective and multi-jurisdictional approach that maximizes opportunities for agricultural conservation and ecosystem protection and restoration, where feasible. This broad goal recognizes that different land uses require different levels of flood protection within urban areas requiring a higher level of protection than agricultural uses.
- Water Supply Reliability Goal The water supply goal for Yuba County is to continue to utilize its surface water supply facilities to regulate waters of the Yuba River in coordination with groundwater management activities to enhance water supply reliability while also providing surface water to meet in-stream water needs and to make excess water available outside Yuba County when needed.

- Groundwater Management Goal The overall goal for groundwater management is to prevent overdraft, protect overlying groundwater rights, and ensure that the combined use of surface and groundwater resources provides for current and future water demands in a sustainable way.
- Water Quality Goal The water quality goal is to understand the quality of existing surface and groundwater sources and preserve, protect, and improve the quality of regional water supplies to ensure sustainable good-quality water for all beneficial uses.
- Ecosystem Restoration Goal The overall goal is to protect fishery and related riparian resources of the Yuba River and at the same time provide a sustainable water supply and protect life and property through appropriate flood control facilities and floodplain management.
- Recreation and Public Access Goal The goal is to provide for expanded use of existing recreational opportunities and develop new recreational opportunities along the water courses in the Plan Area. The recreation and public access goals within the Plan Area include providing the public access and the facilities needed to support recreational activities along the Yuba River and other waterways in the Plan Area while maintaining and protecting the integrity of local water-related infrastructure such as levees. Any recreation and public access goal that includes crossing or use of the levees must not damage the integrity of the levee system.

These goals and objectives will reviewed as part of the Plan Update to allow addition input from new stakeholders, and update them as needed to reflect the new IRWMP Guidelines.

6.4.2 Yuba IRWM Plan Objectives

The following objectives were developed as part of the 2008 Plan. These will be reviewed and updated as part of the Plan Update.

Flood Management Objectives - The following flood management objectives have been developed to meet the mid-term and long-term flood protection goals of Yuba County. The objectives are to:

- Protect Yuba County to the highest level achievable in an expeditious and costeffective manner that meets urban area mid-term flood protection goals (200-year) and contributes to the long-term goal (500-year protection)
- Account for uncertainty in predicting the magnitude of hydrological events
- Operate and manage existing and proposed facilities to avoid coincident peak flows that exceed the channel capacities on the Yuba and Feather Rivers and to continue implementing the Forecast-Coordinated Operations Program (F-CO)

- Provide for significantly improved performance of levee systems under a full range of design loading conditions, and avoid increasing downstream flow and stage during peak-flow conditions
- Incorporate environmental enhancements and adopt management measures that minimize environmental impacts and fully comply with environmental laws
- Maximize benefits and reduce facility cost through use of local, state, and federal revenues, and equitably distribute costs with upstream and downstream interests when appropriate and practical
- Streamline environmental permitting and compliance efforts
- Secure FEMA certification of local levees

Water Supply Reliability Objectives - The following water supply reliability objectives have been developed to meet the long-term water supply reliability goals of Yuba County:

- Provide reliable and good-quality water for urban areas of the County as defined by the Urban Water Management Planning Act to meet current and future water demands in various year types (normal years, single dry year, and multiple dry years).
- Provide a reliable and good-quality water supply to ensure the long-term sustainable agricultural economy of Yuba County through 2030.
- Improve the self-reliance of the rural and isolated communities within the Plan Area to help them meet their local water infrastructure and water management goals through 2030 except in critical dry years. Many of these areas are disadvantaged and low income.
- Improve water supply reliability for the region and State by continuing to make surface water available to the EWA, and to areas in California of short supply, with increased operational flexibility for protection of the fisheries resources and providing dry-year water supplies to state and federal water contractors. This is a secondary objective that is intended to be met only after all the local objectives have been addressed.

Groundwater Management Objectives - YCWA actively manages the Yuba groundwater subbasins. In 2005, YCWA adopted a Groundwater Management Plan (GMP) (YCWA, 2005) that includes provisions to protect the safe yield of the North Yuba and South Yuba groundwater subbasins. Many groundwater management issues in the Plan Area were addressed in the Yuba County GMP and incorporated into the Basin Management Objectives (BMOs). The Groundwater Management Plan is currently being updated. The Plan Update will be coordinated with the update of the groundwater management plan.

Therefore, the Management Group used the following BMOs developed for the Yuba County GMP to address the groundwater management issues in the Plan Area.

- Achieve groundwater storage levels that result in a net benefit to basin groundwater users. YCWA intends to manage groundwater through conjunctive use activities to avoid unreasonable impacts that may occur from changes in groundwater elevations due to external water transfers. Groundwater elevation reductions that may occur as a result of groundwater extractions to meet local and out-of-county demands in drier years will be monitored by YCWA.
- Maintain or improve groundwater quality in the basin for the benefit of groundwater users. Generally, the groundwater in the basin is of excellent quality. However, occurrences of both groundwater contamination and increases in total dissolved solids have been documented in the basin. In these instances, YCWA will coordinate with appropriate local, state, and federal agencies to pursue actions that will result in the remediation of the problem.
- Protect against potential inelastic land surface subsidence. Land subsidence can cause significant damage to essential infrastructure. Historically, land surface subsidence within the county area has been minimal, with no known significant impacts to existing infrastructure. Given the historical trends, the potential for land surface subsidence from groundwater extraction in the North and South subbasin areas is remote. However, YCWA intends to coordinate with DWR to monitor for potential land surface subsidence. If inelastic subsidence is documented in conjunction with declining groundwater elevations, YCWA will investigate appropriate actions to avoid adverse impacts.
- Protect against adverse impacts to surface water flows. Among other important uses, the Yuba River provides habitat for a variety of fish and wildlife species. YCWA is committed to meeting flow requirements in the Yuba River for protection of habitat. In addition, YCWA plans to coordinate with DWR in monitoring efforts that evaluate the relationship (if any) between groundwater pumping and adjacent river or stream flows.

Water Quality Improvement Objectives - The RWMG identified the following objectives to address water quality protection and improvement issues within the Plan Area:

- Identify and implement projects and programs that monitor and protect surface water quality
- Identify and implement projects and programs that monitor and protect groundwater quality
- Coordinate water quality monitoring and reporting efforts with existing programs

Ecosystem Restoration Objectives - The RWMG identified the following objectives to address ecosystem restoration issues within the Plan Area:

- Implement the Proposed Lower Yuba River Accord and provide local and statewide fishery benefits
- Integrate ecosystems management objectives and environmental features into the Yuba-Feather Supplemental Flood Control Program and related flood management strategies

Recreation and Public Access Objectives - The RWMG identified the following objectives to address recreation and public access issues within the Plan Area:

- Identify opportunities to provide safe, legal access to the Yuba River and other water bodies in the Plan Area while ensuring that the integrity of levee protection systems is maintained
- Identify opportunities to highlight the natural features and unique historical character of the rivers and surrounding areas

6.4.3 Resource Management Strategies

The 2008 Plan addressed the Resource Management Strategies included in the California Water Plan Update 2009. At that time, the RWMG reviewed the strategies to define how local project and program elements would be aggregated into the Yuba County IRWM Plan.

The RWMG decided that a number of the recommended strategies were not applicable to the Yuba County IRWM Plan and would not support achieving the established goals and objectives at that time. This did not imply that these will not be considered at a future date as part of an adaptive management philosophy or as part of any subsequent updates of the Yuba County IRWM Plan.

As part of the Plan Update, the RMS will be revisit the RMS to identify which ones should be included into the Plan Update, taking into consideration the effects of climate change on the Yuba Region.

6.4.4 Formulation of Water Management Strategies

An important and necessary step in the IRWMP process is to formulate strategies that will be effective in addressing critical water needs and issues for the region. There are those typical strategies that are generally considered for common water management issues like those listed in the previous sections that should not be overlooked. However as each region and their set of issues is unique, the strategies and resulting prioritized actions should be tailored to their particular needs.

Considering the broadest range of strategy ideas will ensure that no good idea is overlooked. The region's significant water issues include water quality, storm water runoff, and water reliability. With those topics as targets, the IRWMP planning process can consider various approaches to solve those problems, combine various actions together and evaluate their effectiveness. The planning process will be open and public. Brainstorming additional solution paths is important to help shape alternatives, provide the broadest consideration, and obtain stakeholder buy-in in the process. Environmental forces, such as climate change, must also be considered when developing strategies.

RWMG members and stakeholders intend to rely on a broad range of water management strategies to achieve planning objectives. Many of these strategies are evident in previous planning documents prepared by members and in planning activities currently underway in the region. A central purpose of the 2008 Plan and the Plan Update is to integrate water management initiatives undertaken by each of the participants into a program of integrated projects for the Yuba Region.

The following is a preliminary list of strategies to be considered during the Plan Update:

- Ecosystem restoration
- Environmental and habitat protection and improvement
- Groundwater management
- Storm water capture and management
- Water quality protection and improvement
- Conjunctive use
- Land use planning
- Watershed planning
- Water transfers

- Water supply reliability
- Flood management
- Recreation and public access
- Water conservation
- Water recycling
- Imported water
- Storage
- Water and wastewater treatment
- Treatment methodologies

The Plan Update work plan will specifically include the following:

- Regional Projects Projects that benefit multiple jurisdictions and communities are a priority for the plan and for implementation. The Plan Update process will look specifically for those opportunities during the project review, project integration, and project prioritization phases.
- Water Conservation and Water Use Efficiency Water use efficiency has great potential in mixed agricultural and urban environments like the Yuba Region. Projects focusing on demand management will improve water reliability for the region and the State, by reducing the local needs and making more water available for other parts of California, north and south of the Sacramento-San Joaquin Delta. Landscape water reduction has good potential for reducing demand and the use of storm water runoff locally within the region is an element of efficiency that must be

included along with expanded water conservation programs. These strategies are among the statewide priorities for water use efficiency and the statewide priority for water supply reliability and also under the CALFED Water Supply Reliability Program Objectives.

- Environmental and Habitat Protection and Improvement Projects The Plan Update process will be looking for projects to improve the ecosystems currently in the region. Flood control projects such as the local setback levees on the Bear and Feather Rivers have provided significant opportunities to expand the environmental stewardship in the region. This supports the statewide priority in this area.
- Water Supply Reliability This is a key issue for the Yuba Region and supports the conjunctive use operations of the Lower Yuba River Accord.
- Groundwater Management The existing SB1938-compliant groundwater management plan is currently being updated. The Plan Update will be coordinated with this effort to review and update groundwater related objectives, strategies, information and data management documentation and communication efforts.
- Protect Water Quality This is a key issue for the region as all of the municipal water purveyors currently rely on groundwater, and it is a statewide priority to Protect Surface and Groundwater Quality to safeguard public and environmental health.

6.4.5 Project Formulation and Prioritization

Specific projects that are needed to implement the Plan Update will be identified. These projects will be prioritized to meet regional water management objectives and to follow the water management strategies adopted in the Plan Update. A necessary component of the Plan Update will be to identify additional projects that may serve the multi-benefit objective of the Yuba Region and that would address the area's critical needs. All decisions will be finalized by a vote at a regular meeting of the RWMG. An implementation schedule that extends beyond the adoption of the Plan will be developed.

A specific project prioritization process will be developed during the IRWMP planning process. Some of the prioritization factors to be considered will likely include: the urgency of the need for the project (whether there is a safety issue or a fine associated), consistency with objectives, local priorities, whether the project generates the greatest regional benefits at acceptable levels of impact and cost, and the extent to which the project meets the planning goals.

A Project Integration Subcommittee will be assembled as part of the Plan Update to look for opportunities to combine or integrate individual projects into larger programs that meet multiple objectives, thus improving their ranking and prioritization. These prioritization criteria will be discussed during the planning process. Preliminary criteria include strategies that:

- Best meet the stated planning objectives.
- Have significant potential for preserving health and safety.
- Provide for reasonable and beneficial use of the state's water resources.
- Provide for synergy and a broad range of benefits to the communities.
- Facilitate funding opportunities for implementation of other strategies.
- Protect and enhance water supply and water quality; especially in economically disadvantaged communities in the region.
- Identify strategies that are ready for implementation or can be easily implemented.
- Assist the Region in adapting to the potential threats from climate change and/or meet the planning objectives while presenting the least negative impact on climate changeinducing factors such as greenhouse gas emissions.

6.4.6 Plan Implementation

In addition to creating a framework for prioritizing and selecting projects, the Yuba Region Plan Update process will develop an implementation schedule. The schedule will depend on the types of strategies developed, the costs, the beneficiaries, and the financial abilities of participating agencies. Because the RWMG and their individual member agencies intend to apply for implementation grant funding, the availability of financial assistance could also affect the implementation schedule.

The RWMG is scheduled to update its governance process as part of the Plan Update to establish the authority to take the lead role in program implementation, which is expected to span many years. As allowed, projects are expected to be implemented under three tiers of authority.

- Regional projects will be implemented by the RWMG.
- Multi-agency local projects may be implemented by the RWMG or by agreement between the agencies that benefit from the project.
- Local single-agency projects will be implemented by the local agency benefiting from the project.

Upon completion of the Plan Update, all participating agencies are anticipated to adopt the Plan. Its adoption will signify these agencies' commitment to implement regional projects.

6.4.7 Plan Performance

The Plan Update process must not only develop the Plan but also consider and determine a method of measuring the success of the Plan and its implementation. The Plan Update will include the development of metrics and procedures on at least the following elements:

Obtaining and meeting plan objectives.

- Stakeholder outreach and involvement.
- Monitoring systems that will be used to gather performance data.
- Mechanisms to change and adapt implementation and project operations based on the data collected.

6.4.8 Updating and Amending the IRWMP

The RWMG recognizes the need to effectively adapt to the changes of a growing community, changing laws, project alterations, and environmental factors, including the potential vulnerabilities resulting from climate change. The 2008 Plan included a process to efficiently update and amend the existing IRWMP and add new projects as they are identified and developed. This process will take into account the need for expedient implementation of alterations to the plan as well as provide a clear and open procedure to amend or update the IRWMP. The Plan must be flexible enough to allow for adaptive changes during implementation but not change so frequently as to discourage long-range planning and marginalize stakeholder involvement.

6.4.9 Impacts and Benefits

To evaluate alternative strategies and subsequent actions included in the Plan Update, the relative impacts and benefits of various alternatives must be estimated. For most of the water management issues considered, this implies a measurement of water quantities or water quality parameters. It may also require measuring biological factors, not only in the region, but downstream or upstream in a water supply or water management system. Estimating obvious but uncalculated project benefits, such as the value of expanding open recreational space in densely populated disadvantaged communities, will require the development of new metrics.

Existing monitoring and measurement may likely provide the baseline or even the parameters needed to estimate benefits and impacts. However, additional factors may also be needed, which will require some increase in the current monitoring or data gathering programs. Comparing impacts and benefits may also require new approaches.

Benefits and impacts may be measured in terms of several parameters:

- Cost
- Energy
- Temperature
- Greenhouse gases
- Carbon
- Management efforts
- Water quality constituents and concentrations

- Water supply reliability
- Timing
- Environmental justice
- Biological habitat
- Health risks
- Risks of upset
- Per capita water use

A process will be developed for determining the impacts and benefits of the plan development and implementation as well as complying with the California Environmental Quality Act as it is applicable to adoption and implementation of the Plan. These impacts and benefits will be considered from multiple perspectives, including:

- Yuba Region
- Inter-Regional within the Sacramento River Hydrologic Region
- Disadvantaged Communities
- Environmental Justice related concerns,
- Native American tribal communities

6.4.10 Data Management

The majority of the data used in the development of the 2008 Plan is publicly available. However, any new data collected as a result of the Plan Update will be made available to the stakeholders, agencies, and the public through a process developed by the RWMG. DWR maintains an on-line groundwater level database, for example. The data collected will be organized and collected to also support statewide data needs. Any groundwater quality monitoring conducted as a result of the IRWMP will be integrated into the SWRCB's and DWR's statewide data management efforts.

A data management system will be developed and tailored to the eventual needs of the RWMG and stakeholders. This system will allow sharing of data with RWMG members, consultants, stakeholders, and government agencies and will be eventually managed by the RWMG or its designee. It is likely the data base or data bases will be GIS based, as that is where the technology for these data management systems is going. However, the specific system is not specified at this time. The consultant will be asked to employ a data system expert to assist with this work.

6.4.11 Data and Technical Analysis

Data on water use, flood and storm water events, and water quality constituents have been collected extensively in the region for many years. Precipitation, stream flow, groundwater elevations, groundwater quality, surface water quality, and environmental habitat data are also generally available, and will be needed to evaluate alternatives and then measure the ultimate impact of actions and projects within the region.

Urban Water Management Plans provide projections on future anticipated trends and investments and are available for the Yuba Region.

While a simple comparison of measured parameters before and after an action (or projected after the action) can lead to a satisfactory evaluation of that action or strategy, often the situation is more complicated. There may be a mixed impact or benefit, with various parameters reacting differently. For example, an action may increase water reliability, but decrease water quality. In those mixed cases, impacts and benefits must be studied carefully to weigh the differing parameters with one another. Furthermore, to address the management strategies and objectives developed for the IRWMP, additional monitoring studies may be needed.

Any technical analysis used to support the Plan Update either directly (as part of the Plan Update) or separately by a RWMG member will be identified and documented.

6.4.12 Relation to Local Planning

Planning documents that have been prepared by RWMG members were important building blocks in the development of the 2008 Plan. These documents and updates to these local documents will be reviewed to identify changes since the 2008 Plan was prepared. The Plan Update will continue to integrate the planning that has already been performed by local entities into a group of strategies and projects that meet local needs while also satisfying regional objectives. The Plan Update intends to develop a Water Evaluation and Planning (WEAP) model for the Plan Area to provide a tool to link evaluate the impacts of changing land use conditions on different water management scenarios.

6.4.13 Stakeholder Involvement

Stakeholder outreach processes used in the development of the 2008 Plan will be continued through the Plan Update and the implementation of the IRWMP, and will be ingrained in the business practices of the RWMG into the future. The Plan Update will document the processes and procedures developed to make decisions and participate in the development of the IRWMP. All stakeholders were invited to participate in the 2008 Plan and will be invited to participate in the Plan Update regardless of their ability to contribute financially to the Plan. These contributions are not needed because YCWA has historically participated in funding regional water management planning efforts in Yuba County.

The Yuba Region shares common attributes, shares the same watershed, and overlies a common groundwater basin. Through the IRWMP process, the RWMG will continue to represent the Yuba Region to fairly and efficiently manage water resources and implement environmental stewardship practices. The RWMG recognizes that to provide fair representation for the water management agencies, it is imperative that they continue to implement a collaborative, multi-stakeholder process. The stakeholder outreach process includes a comprehensive effort to activate and engage stakeholders, including DACs, tribal communities and other underrepresented groups, in the IRWM planning process.

During the development of the 2008 Plan, the RWMG used a variety of media in their stakeholder outreach efforts to publicize the IRWMP process, including the internet,

newspaper, written announcements, brochures, and reports. In addition, the RWMG hosted workshops and held monthly and special meetings throughout the IRWMP process.

The RWMG will conduct public outreach meetings to the stakeholders in the region and will develop a methodology for compiling a list of stakeholders and encouraging them to participate in the planning and implementation.

Outreach efforts will ensure that all areas of the region as well as all "interests" are involved. The process for stakeholder identification, participation, and involvement is detailed in Work Items, Task 2.2. The initial list of possible stakeholders would include regional, watershed-based, and state/federal organizations.

Regional

- Other Yuba Region agencies.
- Water companies and water purveyors, both private and public.
- Flood control agencies
- Municipal and county governments and special districts
- Native American Tribes
- Disadvantaged community members

Water wholesalers and suppliers to the region, including groundwater, surface water, and recycled water suppliers.

Watershed-based

- Environmental advocates.
- Watershed councils and organizations.
- Local government organizations, such as council of governments.
- Business community (including economic and workforce development groups).
- Industry representatives.
- Non-profit organizations.

State/Federal

- State and federal resource agencies and departments.
- State and federal regulatory agencies.

A more detailed initial stakeholder list has been included in Table 6-1. This list is a starting point for invitations to participate in the IRWMP process and does not represent a final roster of organizations or individuals interested in formulating a regional plan. The outreach efforts will expand the potential stakeholders and work to encourage their continued participation.

6.4.14 Public Outreach

The RWMG will incorporate an extensive public outreach program into the Plan Update efforts to fairly and comprehensively represent the range of interests of the Yuba Region. The people of the Yuba Region are ultimately the beneficiaries of the IRWMP and their input is imperative to the process. Similar to the stakeholder outreach process, the RWMG plans to engage the public, including DACs, and encourage their involvement throughout the Plan Update process.

The RWMG plans to utilize a variety of media in their public outreach efforts to publicize the IRWM process and encourage public participation, including the internet, newspaper, radio, written announcements, brochures, and annual reports. In addition, the RWMG will host workshops and hold monthly and special meetings open to the public throughout the IRWMP process and beyond.

A website is currently under development for the Yuba Region IRWM, a link to which will be provided on individual RWMG member sites. RWMG contact information will be posted on the website, with directions on who the public may contact with comments, questions, and concerns.

Currently, the point of contact for the public is Scott Matyac, Water Resources Manager for Yuba County Water Agency, and the Plan Update Project Manager. IRWM information, publications, and reports will also be posted on the website. The RWMG will use the website to post meeting notices, agendas, and meeting minutes. Meeting agendas will be posted no less than 72 hours before the meeting. Meetings will be held on a regular schedule and at a consistent location. Notices will be available one month prior to meetings and the meeting minutes will be posted as soon after the meeting as possible.

In addition to the RWMG website, meeting announcements will be made via local newspapers, local radio stations, and posted in public places. The meeting agendas and meeting minutes will be posted on individual RWMG member websites, at the meeting location, and in public locations such as city libraries and city buildings.

6.4.14.1 Outreach Process

The proposed public outreach process is summarized below.

Initial Public Meeting

The RWMG plans to hold a public meeting to solicit input from the community regarding the preparation of the Plan Update. The RWMG will publically announce the meeting in local newspapers, on the radio, and on their website, inviting all members of the public to attend. The meeting will be announced per California Government Code Section 6066 and the agenda will be made available no less than 72 hours prior to the meeting.

The purpose of the meeting is to present the public with information about the proposed Plan Update planning process and receive comments from interested parties. The presentation will describe the region encompassed by the IRWMP. RWMG members will be at the meeting to answer questions, solicit input, and increase public awareness of the Plan Update. Documentation of the meeting and the comments received from the public will be recorded and made available to the public via the RWMG's website, the local library, and the RWMG members' websites.

Public Involvement Plan

The RWMG will develop a method and process that will allow the public to participate in the planning process and ensure that their opinions can influence decisions about water management during the Plan Update. Interested members of the public will have many opportunities to provide input throughout the IRWMP process at regularly scheduled meetings and on the RWMG website. As the governing board of a special district, the RWMG will evaluate and respond to public comment.

Public Meeting on Draft IRWMP

Within two weeks after the draft Plan Update has been made available, a hearing will be held for the general public to address concerns and provide their comments on the Plan Update. Members of the RWMG and the consultant will answer questions and facilitate public involvement.

Monthly and Special RWMG Meetings

The RWMG will meet on a bi-monthly basis throughout the preparation of the Plan Update. Stakeholders will be invited to attend and participate and public announcements will be made to encourage public involvement. Special meetings for plan actions and workshops will be held as necessary.

6.4.15 Tribes

Government Code requires local governments to consult with California Native American Tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to cultural places. The RWMG has contacted the NAHC to receive a list of representatives for the tribes identified in the Plan Area. These contacts will be notified of all meetings and activities and invited to participate as a stakeholder during and after the IRWMP development. As of the submittal date, we have not heard back from the NAHC identifying the tribes within the Plan Area.

6.4.16 Disadvantaged Communities

The census tracts and census blocks were analyzed to determine the Median Household Income (MHI) for the area.

Agriculture and agriculture-related industries, military operations (i.e., Beale AFB), governmental institutions, industry, and recreation contribute to Yuba County's economy. Historically, the valley floor and foothill areas of Yuba County have had an agricultural-based economy.

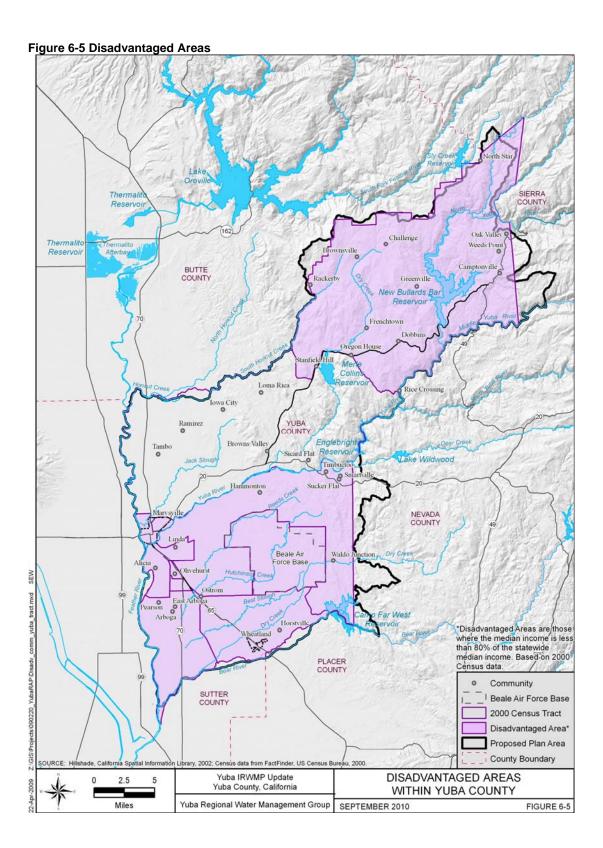
Historically, Disadvantaged Communities (DACs) have existed throughout the county. The DACs are widely disbursed on the valley floor among the agricultural lands as shown on Figure 6-5. The primary water management concerns are related to groundwater quality. In the foothill and mountain areas, the DACs are small communities dotted along the transportation corridors. Because of the rugged terrain and low population density, these few populated areas define the economic conditions of the area. The primary water management concerns in the foothills and mountains are water supply reliability and water quality from primarily surface water sources and adequate infrastructure to store and deliver water.

Table 6-3 shows the Median Household Income (MHI) for the Plan Area within Yuba County. Much of the County's income is below the California MHI, and the County in total

Table 6-3 Yuba County and California Median Household Incomes

| Table 6-3 Yuba County and Call | Number of Households | Median Household Income (\$) | % of Median Household Income (%) |
|--------------------------------|-------------------------|------------------------------------|--|
| Yuba County | 20,552 | 30,460 | 64.1 |
| California | 11,512,020 | 47,493 | |

Source: U.S. Census Bureau, 2000, census data



is also considered economically disadvantaged (i.e., their median income is less than 80 percent of the State average). California has an average household income of \$47,493. As a region, Yuba County has an MHI of \$30,460, or 64.1 percent of the California MHI. Therefore, the region is considered economically disadvantaged.

Within Yuba County there are several economically disadvantaged areas primarily located in the foothills and south of the Yuba River as shown in Figure 6-5. The disadvantaged areas do not correspond to management entities, but many are served by water purveyors that are already members of the RWMG. The RWMG has identified numerous DACs within Yuba County and included them in planned outreach efforts (Table 6-4).

Table 6-4 Representative Disadvantaged Communities in Yuba County

| Community/Area | Number of Households | Median Household Income |
|----------------------|-------------------------|-------------------------------|
| City of Marysville | 4,797 | \$29,625 |
| City of Wheatland | 1,086 | \$38,061 |
| Olivehurst | 413 | \$22,083 |
| Linda | 942 | \$19,709 |
| Dobbins/Frenchtown | 519 | \$25,313 |
| Challenge | 467 | \$27,344 |
| Racherby/Brownsville | 392 | \$26,071 |
| Beale AFB | 1,605 | \$34,107 |

Of the communities included on Table 6-4, the cities of Marysville and Wheatland and Linda County Water District, and Olivehurst Public Utilities District participated in the development of the 2008 Plan and are RWMG members. Many of the foothill communities are represented in the IRWMP by Browns Valley Irrigation District or North Yuba Water District, which were both participants in the development of the 2008 Plan and are RWMG members. Beale AFB was invited to participate in the development of the 2008 Plan, and Beale AFB and the County are currently investigating the opportunities to develop a regional wastewater treatment plant on the base that could serve western Yuba County.

The RWMG will employ specific mechanisms to assist DACs and to encourage their participation in the IRWMP development process. There is no cost for participation in the development or update of the Yuba IRWMP by stakeholders, so participation is available to all parties.

During the RAP Process, the RWMG was contacted by Genevieve Sparks of the Sacramento River Watershed Unit of the Regional Water Quality Control Board, Central Valley, which provided a listing of individuals and/or organizations that may have contact with Disadvantaged Communities within the Yuba Region. The DAC outreach efforts of the Plan Update will be coordinated with the RWQCB to identify groups and projects within the Plan Area.

6.4.17 Use of Existing Planning Processes

The planning documents in the region were assembled and reviewed as part of the development of the 2008 Plan. Some of these documents included:

- Regional Planning Documents.
- Local Water Supply Planning Documents, including UWMPs
- Environmental Impact Reports Related to Water Supply Planning.
- Institutional Planning Documents.
- Water Quality and Flood Control Documents.
- Flood Control Plans and Agreements

Figure 6-4 showed the relationship of planning documents used to develop the 2008 Plan that relied largely on existing plans prepared by local agencies. The list of available documents will be reviewed and updated as part of the Plan Update.

6.4.18 Agency Coordination

Water users in the Yuba Region have worked together for years in various arenas. Coordination and cooperation is demonstrated by numerous projects and programs, which are exemplified through the development and implementation of the Lower Yuba River Accord, and Yuba-Feather Supplement Flood Protection Project. The successful formulation of the RWMG and its recognition as a regional entity shows the region's desire to work closely together on water planning issues.

Of course, regionally, there are several agencies and organizations that conduct planning activities that must collaborate to deliver a truly integrated plan for the area.

Other planning efforts in the region include those related to land use planning, water wholesalers, county agencies, neighboring jurisdictions, other joint power authorities, such as councils of governments, and other watershed organizations. It is important to structure the IRWMP process to allow and encourage effective coordination between planning efforts. The RWMG is well aware that the IRWMP planning process should and must consider these other activities. This necessary coordination will prevent duplication, avoid missed opportunities, and make sure there are no gaps in the plan.

The plan integration process should:

- Ensure other planning agencies participate as stakeholders in the IRWMP. This would mean not just inviting, but strongly, actively encouraging participation.
- Seek common objectives between planning efforts where possible.
- Collect common information that can be shared by agencies.
- Look for joint strategies between plans.
- Tier or coordinate actions between agencies so they complement each other and address mutual objectives.
- Seek out and minimize duplication in planning efforts.
- Incorporate agencies as funding partners where strategies align.
- Check back with agencies after compilation of the IRWMP to ensure no conflicts exist.

Coordination and Cooperation with Agencies and with Land-Use Planning Decision Makers

Because the RWMG includes entities that are responsible for management of both water and land use, local land-use planning decision makers will be integrally involved in formulation of the Plan. The work plan includes review steps on water management strategies and projects, including Project Feasibility and Other Factors where the review of water management alternatives and land use decisions will be integrated. This will ensure continual reevaluation of the interactions between water management strategies considered in the Plan and land use. This is a Program Preference for the Proposition 84 IRWMP Program, but more importantly, it is an efficient, effective tool in ensuring the Plan best addresses regional needs.

Water Wholesalers

Yuba County Water Agency provides water to local agricultural purveyors in the Yuba Region. Their planning programs and planned investments will affect future work within the region, and provide opportunities to help address IRWMP objectives. YCWA's Lower Yuba River Accord and groundwater management plan are good examples of planning efforts that will touch the IRWMP process.

Neighboring Plans

The Yuba Region is engaged in coordination and planning with all of the IRWM Regions in the Sacramento River Funding Area (SRFA). DWR's map of IRWM funding regions identifies ten planning efforts in the SRFA: American River Basin, Cosumnes American Bear Yuba (CABY), Four Counties, Sacramento Valley, Lake County, Napa-Berryessa, Solano, Upper Feather River, Yolo County, and Yuba. The RWMG will continue to coordinate with these neighboring plans during the Plan Update

6.4.19 Program Preference and Statewide Priorities

The Plan Update will address a number of water related Program Preferences and Statewide Priorities (Guidelines, Pages 12, 13, 14). The following list summarizes what preferences/priorities are included and where in the work plan tasking are they being addressed:

Preferences

■ Include Regional Projects or Programs (CWC §10544) -

Task 4.2—Review and Update Integrated Management Strategies for Region

 Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program -

Water Supply Reliability through Water Use Efficiency strategies and projects:

Task 4.2— Review and Update Integrated Management Strategies for Region

 Address critical water supply or water quality needs of disadvantaged communities within the region-

Task 4.7 Project Support for DACs

Task 4.13 DAC Issues Review

Effectively integrate water management with land use planning-

Task 4.4—Update Water Budget and Develop WEAP

Task 4.8—Project Feasibility and Other Factors Review

Statewide Priorities

Drought Preparedness-

Water Supply Reliability through Water Use Efficiency strategies and projects:

Task 4.2— Review and Update Integrated Management Strategies for Region

Use and Reuse Water More Efficiently-

Task 4.2— Review and Update Integrated Management Strategies for Region

Climate Change Response Actions-

Task 4-11 Climate Change Vulnerability and Mitigation Review

Expand Environmental Stewardship-

Environmental and Habitat Protection and Improvement Projects-

Task 4.2— Review and Update Integrated Management Strategies for Region

Practice Integrated Flood Management (already included in 2008 Plan)—

Task 4.2— Review and Update Integrated Management Strategies for Region

Protect Surface Water and Groundwater Quality(already included in 2008 Plan)—

Task 4.2— Review and Update Integrated Management Strategies for Region

Ensure Equitable Distribution of Benefits-

Task 4.10 Environmental Justice Review

Task 4.13 DAC Issues Review

6.4.20 Climate Change

The Plan Update will review the climate change vulnerability of the region and mitigation strategies that may be considered to address the adaption to the effects of climate change and potential mitigation of GHG emissions. The State has not reached a definitive approach so the work task must be flexible for potential changes. This review process will include input from members of the RWMG, stakeholders, and the public. The approach included in the Plan Update to address climate change is described in more detail in Task 4.11 –Climate Change Vulnerability and Mitigation Review.

6.5 Work Items

The RWMG is proposing a logical process for completing the Plan Update based upon the need to address new issues identified as part of the IRWMP Guidelines and respond to issues identified during the RAP process. The workplan is presented in the tasks below.

Task 1 Project Management

Task 1.1 Contract Administration

The project manager for the Plan Update is responsible for the overall contract administration. Some of the activities associated with this task include:

- Administration of the contract with DWR.
- Issuing task orders to consultant.
- Administration of the contracts with other agencies, vendors, or individuals.

Task 1.2 Project Management

The project manager for the Plan Update provides project management activities, which include:

- Reviewing the consultant's work plan and progress.
- Reviewing project budget and schedule.
- Reviewing consultant invoices.

The consultant provides project management activities which include:

- Preparing and submitting invoices.
- Review of all project work.
- Coordinating with RWMG agencies and other stakeholders.

Task 1.3 Project Reporting

The project manager for the Plan Update is primarily responsible for the project reporting which includes:

- Providing monthly reports to RWMG agencies and other interested parties and stakeholders.
- Providing quarterly reports to Grant Administrator Consultant and RWMG Staff will prepare and submit quarterly reports to DWR, as defined by the grant agreement.

The agencies are responsible for the project reporting which includes:

- Providing monthly reports to their governing boards, other interested parties, and stakeholders.
- Providing monthly reports to the RWMG.

This task includes a line item in the project budget to support the development of a webpage for the IRWMP activities within Yuba County that will be developed on the Yuba County

Water Agency website that will be utilized to communicate about the Plan Update to all the members of the RWMG, stakeholders, and public.

Task 1.4 IRWMP Support since October 2008

This line item is included in the work plan to account for the IRWMP support provided by the RWMG since 2008. The largest efforts over this almost 2-year period included several meetings to keep the project list updated, and the participation in DWR RAP process in 2009.

Task 2 – Public Involvement Process and Meetings

The existing public outreach process and meeting format used in the development of the 2008 Plan will be used at the outset to update the IRWMP. Early in the update process it will be revisited with RWMG to ensure it meets the ongoing needs of the RWMG and the updated IRWMP guidelines. The process includes the following items and activities:

Task 2.1— Initial Public Meeting

The RWMG will hold public kickoff meeting to solicit input from the community regarding the update of the IRWMP. The group will announce the meeting in the local newspaper and on their web pages, inviting all members of the public to attend.

The purpose of the kickoff meeting is to present the public with information about the proposed updated IRWMP planning process and receive comments from interested parties. The presentation will describe the Yuba Region encompassed by the IRWMP. RWMG members will be at the meeting to answer questions, solicit input, and increase public awareness of the update to the IRWMP. Documentation of the meeting and the comments received from the public will be recorded and made available to the public.

Task 2.2— Update Stakeholder List and Involvement Plan

At the beginning of the update process, the RWMG will update its current list of stakeholders for the Yuba Region. The RWMG will develop a method and process that will allow the stakeholders to participate in the planning process, ensure that their opinions can influence decisions about water management, and allow additional stakeholders to be identified and included during the update of the IRWMP. Because meetings will be regularly scheduled throughout the IRWMP process, interested stakeholders will have many opportunities to provide input during the update of the IRWMP.

At this time an initial group of stakeholders has been identified from the development of the 2008 Plan. The RWMG will develop a process to reach all stakeholders and to identify additional stakeholders in the region throughout the IRWMP update process.

The potential stakeholders are listed in three categories (1) Regional stakeholders, (2) Watershed-based stakeholders, and (3) Federal and State stakeholders who will be encouraged to participate throughout development of the Plan.

The RWMG will initially contact stakeholders in writing. The RWMG will notify the stakeholders when the meetings are held for the Plan. By participating in these meetings, stakeholders will have a forum for comment and input throughout the update of the Plan. Additional stakeholders will be identified and included in the planning process based on attendance at meetings, other expressions of interest from the stakeholder, or invitations initiated by the RWMG.

Regional Stakeholders:

There are a number of agencies with water management responsibilities in the region that participated in the development of the 2008 Plan as stakeholders, including:

- Reclamation District 10
- Reclamation District 2103
- Marysville Levee Commission
- River Highlands Community Services District
- Ramirez Water District
- Cordua Irrigation District
- Hallwood Irrigation Company
- Brophy Water District
- South Yuba Water District
- Wheatland Water District
- Dry Creek Mutual Water Company
- Camp Far West Irrigation District
- Plumas Mutual Water Company
- Beale AFB

Watershed-Based Stakeholders:

- Environmental advocates (South Yuba River Citizens League)
- California Native Plant Society, Sierra Nevada Chapter
- Foothills Watershed Network
- Middle Mountain Foundation
- Sierra Nevada Conservancy
- Businesses (Chambers of Commerce)

State and Federal Stakeholders:

- California Department of Water Resources (DWR)
- State Water Resources Control Board (SWRCB)

- Sacramento Regional Water Quality Control Board (SRWQCB)
- California Department of Fish and Game (DFG)
- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers (COE)
- U.S. Bureau of Reclamation (USBR)

As part of the Stakeholders and Public Outreach, the RWMG will develop a web page to include share-file capabilities, a calendar of IRWMP events and a question/comment exchange area so that interested parties can stay informed. For special meetings and important events, the RWMG will distribute notices by e-mail.

The outreach and identification of DAC's will include the identification of organizations in the Yuba County areas identified by the RWQCB which included:

- California Rural Legal Assistance
- Coalition for Urban/Rural Environmental Stewardship
- Regional Council of Rural Counties

Task 2.3— Public Meeting on Draft IRWMP

Within two weeks after the draft of the updated IRWMP has been made available, a hearing will be held for the general public, stakeholders, and water interests in the region to address concerns and provide their comments on the IRWMP. Staff and members of the RWMG and the consultant will answer questions and facilitate public involvement.

Task 2.4— Monthly and Special RWMG Meetings

The RWMG will meet on a bi-monthly basis throughout the preparation of the IRWMP. These meetings are open to the public and will be used to review specific tasks, collect comments on work products, and make decisions and guide the IRWMP development process. Special meetings for plan actions and workshops will be held as necessary.

Task 2.5— Agency Board Meetings

The RWMG will provide support to the RWMG members during the review and adoption of the Plan Update by their governing boards. During the development of the 2008 Plan this support included preparation of a Board-level presentation and as needed, presentations by the lead consultant and IRWMP manager to address any questions by the Board. A similar level of effort is expected for the Plan Update.

Task 3 – Review and Formalize Governance

This task will outline governance options that are available to the RWMG to continue leading water management planning in the Region.

Task 3.1— Review Governance Options with RWMG

The advantages and disadvantages of each of these will be evaluated as part of this task. This information will be presented to the RWMG to identify the structure that is most appropriate for the continued long-term success of Yuba Regions IRWM Planning. An expert in governance of such projects will be retained to help develop and facilitate the development of the revised governance structure.

This task will include the development of subcommittees to support program development and communication and decision making procedures to ensure all agencies have an opportunity to participate in the decision making process.

Task 3.2— Select and Implement Governance Option

Once a governance option has been selected by the RWMG members, will be formally developed and adopted by the RWMG. An expert in developing the formal governance process which may include legal support may be needed to develop and adopt the selected governance option.

Task 4 – Plan Update

The Plan Update will be primarily completed by a consultant with water management and planning knowledge and experience in Yuba County and the 2008 Plan. The consultant will meet with the RWMG to develop an updated table of contents and to refine the schedule for the Plan Update.

The consultant will provide guidance to the RWMG by leading a number of working sessions to bring about a common understanding of the regional issues, objectives, and water management strategies and to formulate a framework for the IRWMP. It is recognized that while this is an update of an existing plan, there may be new participants to the planning process, and there are new representatives for some existing RWMG members that were not present during the development of the 2008 Plan.

The sessions will be "all hands" meetings, moderated by the consultant. The consultant will also provide guidance on enhancing and using various tools to evaluate and enhance water management strategies.

Throughout the Plan Update, the consultant will regularly brief the RWMG on the status of the work and receive their comments on the elements of the Plan as they are drafted. It is expected that the RWMG and the consultant will participate in working sessions where ideas are put forth and scenarios for water management are evaluated. The group will determine scenarios for integrating management strategies, based on the different needs of the member agencies. The consultant will prepare a draft Plan as guided by the table of contents.

The tasks to update the Plan are presented below.

Task 4.1—Refine and Enhance Planning Objectives for IRWMP

The purpose of this task is to revisit the planning objectives included in the 2008 Plan and consider updates based on:

- Local planning documents, such as Urban Water Management Plans and the Yuba County General Plan Update currently under development.
- Studies performed by the RWMG members.
- Discussions among the RWMG and stakeholders.

Based on preliminary information it is evident that the Plan will be designed to provide a roadmap for long-term water supply reliability and water management in the region, as well compliance with 20x2020 water efficiency goals and CWC §10540(c). Therefore, at a minimum, objectives of the Plan are likely to include:

- Water supply reliability/ Water Use Efficiency.
- Groundwater management.
- Ecosystem restoration and protection.
- Water quality consideration and protection.
- Flood and storm water management.
- Recreation and public access

Aspects specifically noted in updated legislation regarding the state's IRWMP process the IRWMP will give special attention to addressing:

- Resource Management Strategies
- Disadvantaged communities
- Climate change
- Integration of storm water flooding
- IRWMP governance
- Integration with land use planning
- Statewide water management priorities

Task 4.2—Review and Update Integrated Management Strategies for Region

As part of this task, the water management strategies developed in the 2008 Plan will be reviewed and evaluated in the context of individual and integrated water management strategies to determine those that generate the greatest regional benefits at acceptable levels of impact and cost. Regional benefits will be framed using the multi-objective criteria to be developed in Task 4.1.

In updating the water management options, each of the water management strategies suggested by DWR in the California Water Plan Update and IRWMP Guidelines document will be examined to determine their applicability as part of an integrated approach to meeting future demands. Candidate strategies or groups of strategies will be assembled into strategic options and decision support methodologies will be applied to assist local decision makers in identifying strategic options that are responsive to the updated objectives of the Plan.

Use of decision support methodologies will be important for framing strategic options in ways that clearly define the advantages and disadvantages of each option and that describe the interrelations between various elements within each option. In this way key issues and potential solutions can be presented to stakeholders in a manner that facilitates discussion, enables participants to focus on central issues, and leads to well informed, insightful decision making. The goal of this process is to enable the strategic options that move forward in the planning process to be those that are technically sound and that generate broad support.

Clear framing of strategic options also provides an effective method to analyze alternatives to address specific questions that can be used to support and refine strong strategic options or to reinforce concerns regarding more problematic options.

The outcome of this task will be a determination of the water management strategies that are most likely to meet the objectives of the Yuba Region and that should be considered in the Plan. Because the Plan is intended to meet multiple water management objectives, multiple strategies will be identified. Therefore, an important aspect of this task will be to describe how individual strategies will be integrated into a strategic option that presents a cohesive program for basin-wide water management.

Task 4.3—Review and Update Project Review Process

As part of this task, the Project Rating System used to identify, develop, rank and prioritize projects in the 2008 Plan will be reviewed and updated to reflect the new Project Review Process Standard included in the IRWMP Guidelines. This process will be developed in a collaborative, open forum where stakeholders and the public are included. The process will be documented, including guidelines and criteria, and be understandable by regional stakeholders and the public. Once the process of ranking and prioritizing projects is adopted, projects will be prioritized (in Task 4.16) collaboratively using the process. Stakeholders and the public will be able to review the ranking and see an explanation as to the ranking. All

projects under consideration must satisfy Plan Objectives and present a wise investment for regional and State funding.

It will include:

- Procedures for submitting projects
- Procedures for reviewing projects
- Procedures for communicating project selection

As part of this task, the project submittal forms used by the local agencies to submit their projects to the RWMG will be updated from those used in the 2008 Plan to address the project review factors which include:

- How the project contributes to the IRWM Plan objectives
- How the project is related to Resource Management Strategies
- Technical feasibility of the project
- Specific benefits to critical DAC water issues
- Specific benefits to critical water issues for Native American tribal communities
- Environmental justice considerations
- Project costs and financing
- Economic feasibility
- Project status
- Strategic considerations for IRWMP Plan implementation
- Contribution of the project in adapting to the effects of climate change
- Contribution of the project in reducing GHG emissions as compared to project alternatives

This task will be completed early in the Plan Update process to provide the participating agencies a broad understanding of the IRWMP process, and provide the link between the local and regional aspects of the planning process. It will also include the establishment of a Project Integration Subcommittee which will review the projects as part of Task 4.9 to identify opportunities to integrate projects to meet multiple objectives.

Task 4.4—Update Water Budget and Develop WEAP

The 2008 Plan included a projected water budget for 2015, and a general estimate of the projected 2030 conditions. At that time, the Yuba County General Plan update was under development.

The purpose of this task is to update the existing water budget to identify future water (projected 2030) demands based on projected growth in population, changes in land use, and changes in water consumption patterns resulting from demand management activities, and compare those demands with future water supply options. The water budget will be used to identify periods when gaps are evident between projected demands and reliable supplies. The water budget will be a primary tool in the updating integrated water management strategies designed to secure water supply reliability for the region.

Components of this task will be based upon population, land, and water use data available from RWMG members, including general plans and urban water management plans. Data to be used in development of the water budget will include:

- Documentation of projected 2030 land uses within the region.
- Documentation of projected 2030 water uses within the region including urban, agricultural, and environmental water uses.
- Identification of additional water needed to support future demands and of infrastructure required to support this additional supply.

The Plan Update intends to develop a Water Evaluation and Planning (WEAP) model for the Plan Area to provide a tool to link evaluate the impacts of changing land use conditions on different water management scenarios.

Task 4.5 – Update Resource Management Strategies & Projects Addressing Them

The IRWM Plan identifies and addresses all major water-related objectives and conflicts within the region, and considers all of the resource management strategies identified in the California Water Plan.

For this Task the applicability and efficacy of each water management strategy will be reviewed or revisited. Strategies not previously considered will be scoped and evaluated using a process similar to that employed in the development of the 2008 Plan. Each applicable strategy will be paired with proposed projects. A scoping process will be conducted to identify projects that address each management strategy, or preferably, multiple management strategies.

For each identified project, the RWMG will develop:

- an update of project status
- an update of costs using more recent estimates or revised unit cost factors

- a reassessment of project feasibility based on new cost, environmental, or other factors
- an update of project water supply, environmental, societal or other benefits
- an update on affordability and available funding mechanisms

Additional support will be provided in this task to DACs to help develop or refine their project descriptions so they can be addressed at a comparable level as other projects

Task 4.6—Review and Update Projects to Address Strategies

The 2008 Plan included over 65 projects. To date eight of the projects have been completed, and more than 20 have been identified by RWMG agencies. These projects will provide the basis for additional projects to be identified to address any changes to the water management strategies. Projects developed will be diverse in nature, and attempt to encompass many issues to satisfy the strategic options and water management strategies developed. Integration with other projects and the possibility for future integration with other projects in the region will be taken into consideration when reviewing proposed projects by the RWMG members and the Project Integration Subcommittee. This task will result in an initial list of projects that may undergo additional refinement and analysis through the following tasks in this work plan.

Task 4.7—Project Support for DACs

Many of the disadvantaged communities within Yuba County do not have a single entity that represents all the water-related needs. They are represented by a collection of entities that have overlapping boundaries within which they provide a specific service such as water supply or flood protection. The purpose of this task is to support the identification and initial development of projects that benefit DAC's by working with the specific agencies responsible for providing that service. This task is necessary to allow a project description that address the new IRWMP guidelines to be developed to the level of detail sufficient to allow it to be competitive with other projects being considered within the Plan.

Task 4.8—Project Feasibility and Other Factors Review

Once project alternatives are identified, a review of individual project feasibility will be undertaken. Are the projects generally feasible and cost effective to build or employ? This review is intended to use available information and at least be to a reconnaissance level of detail. A review of project in terms of land use planning would be part of this task.

How a project contributes to the overall strategy of the RWMG to provide effective regional water management is an important factor in project selection. Items considered in project feasibility will include but are not limited to:

■ Economic feasibility
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- Benefits and impacts
- Technical feasibility
- Risk factors
- Adaptability
- Deliverables

The outcome of this task will be a determination of the project feasibility which will support project integration, ranking, and prioritization.

Task 4.9—Project Integration Review

This task reviews the project in relation to other projects in the IRWMP development as well as all the needs and strategies of the region and other regions. In this task the Project Team with stakeholder oversight will look to see if the proposed project would interfere with other projects being proposed or other needs, infrastructure, programs, or members in the region or neighboring regions. The consultant will also look to see if there are opportunities to combine projects or expand them to benefit others. How will the project fit within the whole of the plan? How can it be expanded or reduced to better fit the overall needs of the region or neighboring regions?

This task requires a significant amount of effort in that it requires looking at all projects from different levels and perspectives to determine and evaluate various combinations of alternatives.

As part of this task, RWMG proposes using the Project Integration Subcommittee described in Task 4.3 to focus on the potential integration of the individual projects into a more regionally integrated program to meet multiple objectives.

Task 4.10—Environmental Justice Review

The purpose of this task is to complete an environmental justice project review. Multiple projects will affect stakeholders throughout the region and an environmental justice review will seek to identify and perhaps correct unfair distribution of environmental burdens and access to environmental goods. The results of this task will be incorporated into the project review process.

Task 4.11—Climate Change Vulnerability and Mitigation Review

A review of the climate change vulnerability of the region and mitigation strategies will be undertaken for each project. The consultant will employ a climate change specialist to compile the most likely range of scenarios that may occur for the region based upon the most recent science and thinking in the industry. Current information from DWR and other reputable sources will be included. The climate change specialist and consultant team will also review each proposed project to look for vulnerability to climate change and suggest ways to mitigate for this potential impact. The State has not reached a definitive approach so the work task must be flexible for potential changes. The specialist will share information and recommendations. This review process will include input from members of the RWMG, Yuba Region IRWMP Update Planning

stakeholders, and the public. This review will provide a summary of the analyses as well as possible strategies to mitigate the effects of environmental change over time. The summary will also highlight the delicacy of the water supply and ways to strengthen and protect it in the event of extreme environmental change.

Table 6-5 excerpted from general climate change vulnerabilities for the state. It has been condensed to reflect categories characteristic of the Yuba Region. This general qualitative look at climate change typical effects will give a start to the analysis; DWR will refine the IRWMP climate change standards shortly. The IRWMP will also have to build in flexibility and adaptive management elements to allow for unforeseen or yet –to-be quantified effects of climate change on the water management needs of the region.

Table 6-5 Potential Climate Change Vulnerabilities for the Yuba Region

| | Higher Temperatures | Earlier Snowmelt | Decreased Snowfall | More Rain/ Less Snow | More Extreme Flood Events | Longer, More Frequent Drought | Decrease in Freeze Events | Sea Level Rise | Increased Erosion | More Frequent and Intense Wildfires |
|---------------------------------------|---|------------------------|--|---|--|--|---|-------------------------------------|---|---|
| Water Management | Less supply | Less supply | Decreased streamflows and imported supply; Poorer water quality | More floodplain inundation; Levee stress | Levee stress/ failure; Inundation of lowlands | Less supply; More demand | Higher agricultural demands | | Levee stress/ failure; Poor quality water | Less supply; Higher demands |
| Stormwater and Flood Management | increase flood risk from rapid snowmelt | Increase flood risk | increase flood risk from rainfall events | Increase flood risk from rainfall events | Increase flood risk | May impact resevoir operations | May impact resevoir operations | Reduce flood operations flexibility | Impact to flood protection facilities | Increase flood risk from quckier runoff from burn areas |
| Public Health and Safety | Increased mortality rates | Less supply | Less supply; Poorer water quality | Increase allergens | Increased prevalence and spread of disease; Increased mortality | Increased prevalence and spread of disease; Increased mortality | Increased pesticide use; Increased allergens | | Population and agricultural displacement; Poor quality water | Less supply; Poor quality water; Displacement |
| Infrastructure | Increased energy demands | Reduced power supply | Reduced power supply | Increased structural damage | Increased structural damage | Increased energy demands | Increased energy demands | | Structural damage | Structural damage; Larger levees required |

The outcome of this task will document impacts quantitatively and define uncertainties where possible; adjust hydrologies to reflect most likely dry and wet scenarios based on expected DWR guidance document; describe vulnerability in terms of demand, supply groundwater, ecosystems, and other areas and assess potential impacts and consequences to region; relate objectives to vulnerabilities, evaluate if vulnerabilities and impacts provide basis for prioritizing objectives; evaluate Regional adaptation strategies; discuss and identify relative costs, impacts and benefits; develop Climate Change criteria for purposes of the project evaluations and ranking criteria; develop climate change strategy for IRWMP; develop approach to tracking and monitoring and factor into plan update process and adaptive management strategy.

Task 4.12 - Integration of Land Use Planning

The Yuba County General Plan Update was taking place during the development of the 2008 Plan. There was some coordination between the two plans during their mutual development. Now that the General Plan is nearly completed, it will be reviewed, and incorporated into the

Plan Update as appropriate. Some of the land use related management actions for consideration may include:

- Tracking the number of building permits issued including the number of housing developments with 500 or more housing units, or commercial and industrial development with equivalent demands, must receive written verification from the local water supply agency that a sufficient water supply exists to provide the needs of the new development.
- Working with the County and local planning agencies to ensure that areas that should be set aside to recharge the groundwater basin are reserved for that purpose and are not subject to development.
- Working with area water purveyors and serve as a clearinghouse for water conservation measures and performance data. Water conservation programs will be evaluated through the GBA and actions taken as needed. Evaluation will include at least the following:
 - Summarize baseline water usage for water purveyors' 2005 Urban Water Management Plans
 - o Establish and summarize Demand Management Measures
 - o Track implementation of Demand Management Measures
- Working with local planning agencies to ensure that growth projections, proposed land use changes, and types of proposed developments are consistent with water planning efforts to estimate the 2030 level water demands

The results of the WEAP analysis described in Task 4.4 will be included in this Task to provide the link between land use and water use in the Yuba Region For this Task, RWMG will review these land-use management actions with applicable local, county, and state agencies and assess the level of cooperation and effectiveness of these measures. RWMG will work with these agencies to develop written protocols regarding notification, consultation, and cooperative review of these management actions.

The outcome of this task will include deliverables that document the updated land use planning policies; meeting with local and regional planning agencies; development of written protocols with local and regional agencies regarding notification, consultation, and cooperative review of land use planning actions.

Task 4.13—DAC Issues Review

A review of DAC issues and response strategies will be performed during the review of the Plan Update proposed projects included in Tasks 4.6 and 4.7. This review process will take into account the unique needs of the various DACs in the region and verify those needs are met or mitigated through the Plan.

Attentive consideration to whether projects will help or hinder DACs will be employed during this task. Identification and consideration of water-related needs of DACs may include needs assessments, initial engineering design and study on project, and feasibility studies. DACs are special constituents of the larger framework and the opportunity for DAC assistance and input regarding projects will also be reviewed in this process.

This task supports the program priority, "Ensure Equitable Distribution of Benefits", for the Proposition 84 IRWMP Program.

Task 4.14—Determine Impacts and Benefits of IRWMP

A process will be developed for determining impacts and benefits of Plan development and implementation as well as compliance with the California Environmental Quality Act. This process will be a component of the Decision Support methodology which will allow stakeholders to systematically review and document the potential benefits and impacts of various groups of water management strategies and will introduce impact analysis and CEQA compliance into selection of appropriate strategies. Inclusion of agency stakeholders in the planning process provides a structure for identification of impacts both within the region and in adjacent areas. This information will be incorporated into the project prioritization and review process described in Task 4.16.

Task 4.15—Regional Coordination

The Yuba Region IRWMP supports potential Inter-Regional efforts in the Sacramento River Watershed, and plans to incorporate an inter-regional perspective during the Plan Update. The RWMG will consider these issues during the Plan Update, and will coordinate with these efforts as appropriate. Some of the Inter-Regional efforts identified to date include:

- Sacramento Watershed Information Model (SWIM) that provides web-based mapping and information management capabilities.
- Strategic planning for mercury in the Sacramento River Watershed
- Regional climate change analysis in the Sacramento River Watershed
- Salt and nutrient management in the Sacramento River Watershed.

The RWMG will continue to coordinate with the neighboring IRWMPs in the region by sharing information, participating in conference calls, and sharing information. Task 4.16 Conduct Project Prioritization and Review Process

This task will apply the project prioritizing process developed in Task 4. 3 for the projects in the region. This effort will incorporate input from the Project Integration Subcommittee, and other tasks described above. The outcome of this task will be a list of projects that meet multiple objectives and have the support of the RWMG agencies and stakeholders.

Task 4.17—Develop IRWMP Implementation Component and Financial Plan

The purpose of this task is to identify specific projects that are needed to implement the Plan Update. These projects will be prioritized to meet regional water management objectives and to follow the water management strategies adopted in the plan. The proposed implementation schedule that extends beyond the adoption of the Plan will be developed.

The 2008 Plan included an implementation and finance plan that identified the roles and responsibilities of Plan implementation and project financing. The information and approach developed in the 2008 Plan will be revisited and updated as needed to develop the implementation and financial plan for the Plan Update.

A finance plan will be developed to identify potential sources of funding for the projects and continued implementation of the Plan. The finance plan will be designed to have an appropriate weighting and scheduling of local and external funding. The financial plan will also consider multiple federal, state, and local financing options.

Task 4.18—Develop Data Management Methods

Data collected and developed during this planning process will be shared among participants and will be available to DWR. As appropriate, data and reporting will be posted on a project website as part of the stakeholder and community participation program.

This task will include consolidation of existing data from RWMG members and may include recommendations for data collection, quality control, reporting, and analysis to be undertaken as an element of the implementation program. The consultant will employ a data system management specialist to prepare an appropriate method and platform to allow the RWMG and stakeholders access to information compiled in the development of the plan.

Task 4.19—Develop Plan Monitoring

This task develops a process and protocol to monitor the plan implementation. The RWMG and stakeholders need to know how the plan is being implemented and how steps defined in the plan are being accomplished so that they may continue or adjust the plan accordingly. The IRWMP process must not only develop the plan but also consider and determine a method of measuring the success of the plan and the plan's implementation. This task will include the development of metrics and procedures to measure at least the following:

- Plan objectives.
- Stakeholder outreach and involvement.
- Monitoring systems

Mechanisms to change implementation based on the data collected.

Task 5 – Draft IRWMP for RWMG

Task 5.1—Prepare Administrative Draft IRWMP

Consultant prepared Administrative Draft IRWMP text.

Task 5.2—Review Administrative Draft by Participating Agencies - RWMG

When the first draft of the updated Yuba IRWMP has been completed, the staff/representatives of the RWMG will review it to ensure that all of the planned objectives have been met. When the group is satisfied with the draft IRWMP, the consultant will incorporate all necessary edits and the draft IRWMP will be submitted to the various agency boards for review.

When the administrative draft IRWMP has been completed, the members of the RWMG will brief their respective Board of Directors. The boards will review the draft IRWMP and make any comments before the IRWMP is presented to the public. Because the RWMG will provide status updates on the IRWMP during its preparation, the comments received from the Boards are anticipated to be minimal, and the public draft IRWMP will be released to the public shortly after being presented to the various Boards and their comments are addressed.

Task 5.3— RWMG Review and Approval of Administrative Draft IRWMP

After checking for completeness and ensuring that the IRWMP satisfies the requirements of the Integrated Regional Water Management Planning Act and Proposition 84, the RWMG will then decide whether to release the draft for public review and comment.

Task 5.4—Approval by RWMG for Public Release of IRWMP

The RWMG must approve the release of the IRWMP draft for public review and set a deadline for comments to be received.

Task 6 – Draft IRWMP for Public Review

Task 6.1—Public Draft of IRWMP

The consultant will prepare a draft IRWMP for public review. Its availability will be announced in the local newspaper with information as to where the public can view a copy. RWMG members will provide a link to download the IRWMP on their websites, and copies will be available in local libraries. While RWMG will set the duration of public review on its release, a 30 day review period is anticipated.

Task 6.2— Review and Incorporate Public Comments into IRWMP

The RWMG and the consultant will review the public comments, incorporate them into an appendix to the IRWMP, and assemble a revised draft IRWMP to the RWMG.

Task 7 – Prepare Final IRWMP

Task 7.1— Consultant Prepares Final IRWMP

The consultant will incorporate the RWMG resolutions adopting the IRWMP into an appendix to the IRWMP. The consultant will produce the required number of hard copies, as well as electronic copies of the final IRWMP, and distribute the requested number of copies to the members of the RWMG.

Task 7.2—Adoption of IRWMP by Participating Agencies' Governing Boards

The governing boards of the participating agencies will have one final review of the IRWMP. It is anticipated that within two months of receiving the final IRWMP, the governing boards will adopt it.

Task 7.3— Final IRWMP Submitted to DWR/SWRCB

The final IRWMP will be submitted to the DWR and SWRCB pursuant to the guidelines.

Task 7.4—Prepare Copies of Final Report

In this task, both hard and soft copies of the final report are published for distribution.